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| 10/817,094 | 04/02/2004 | Rohit V. Gaikwad | 15272US02 | 2127 |
| 23446 7590 07/06/2007 MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661 | | | EXAMINER LU, ZHIYU | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/817,094

Applicant(s)

GAIKWAD ET AL.

Examiner

Zhiyu Lu

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 05/21/2007 have been fully considered but they are not persuasive.

Regarding amended claim 1, Applicants have argued that Kim does not anticipate “wherein the adjusting comprises modifying at least one threshold related to the processing of receive signal strength indicator data used in the operation of the radio frequency communication system” because Kim’s teaching does not involve modifying at least one threshold.

However, the Examiner does not agree. In paragraph 0043, Kim discloses the attenuation of the receive/transmit switch is determined based up the first signal power measurement and the second signal power measurement (Fig. 6). It is a setup process that may be done periodically during operation of the radio and/or upon environmental changes. Then Kim discloses in paragraph 0044 taking another measured receive signal strength to compare with a high powered signal strength threshold (Fig. 7) in order to determine the enablement of attenuation mode, wherein the high powered signal strength threshold is *based on the attenuation of the transmit/receive switch* and a maximum input power level. So, paragraph 0044 does anticipate the limitation. Thus, the rejection is proper and maintained.

Regarding rejection on claim 15, Applicants have argued that Kim does not anticipate “the radio frequency communication system adjusting at least one characteristic of the receive signal strength indicator using the switching circuitry and the transmitter circuitry” because Kim’s teaching only involves the switching circuitry and receiver section.

Art Unit: 2618

However, the Examiner does not agree. In Fig. 6 and paragraphs 0040-0043, Kim discloses that switching circuit, transmit section, and receive section are involved in testing and configuration, where two different receive signal strengths are resulted. As receive attenuation mode is enabled, receive signal strength is changed/adjusted. So, Kim anticipates the limitation. Thus, the rejection is proper and maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 10-12, 15-18 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (US2005/0095993).

Regarding claim 1, Kim et al. anticipate a method of operating a radio frequency communication system having a receiver portion and a transmitter portion, the method comprising:

arranging the transmitter portion and the receiver portion in a first configuration (110-112 of Fig. 6, paragraph 0040);

taking a first signal power measurement (114 of Fig. 6, paragraph 0041);

configuring the transmitter portion and the receiver portion in a second configuration (116-118 of Fig 6, paragraph 0042-0043);

Art Unit: 2618

performing a second signal power measurement (120 of Fig. 6, paragraph 0043); and adjusting the operation of the receiver portion based upon the first signal power measurement and the second signal power measurement (122 of Fig. 6, paragraph 0043), wherein the adjusting comprises modifying at least one threshold (high power signal strength threshold) related to the processing of receive signal strength indicator data used in the operation of the radio frequency communication system (paragraph 0044).

Regarding claim 15, Kim et al. anticipate a radio frequency communication system comprising:

transmitter circuitry for generating a radio frequency signal, the output of the transmitter circuitry coupled to a least one antenna (Fig. 2);

switching circuitry (73 of Fig. 2) having an input coupled to the at least one antenna (86 of Fig. 2), an output, and at least a first mode and a second mode of operation, the first mode of the switching circuitry passing a signal from the input to the output with a relatively lower level of attenuation, and the second mode of the switching circuitry passing a signal from the input to the output with a relatively higher level of attenuation (paragraphs 0012-0013, Fig. 6);

receiver circuitry for accepting a radio frequency signal, the receiver circuitry producing at least a receive signal strength indicator (114 of Fig. 6, paragraph 0041); and

the radio frequency communication system adjusting at least one characteristic of the receive signal strength indicator using the switching circuitry and the transmitter circuitry (Fig. 6, paragraphs 0040-0043).

Art Unit: 2618

Regarding claim 23, Kim et al. anticipate a radio frequency communication system as explained in response to claim 15 above.

Regarding claims 2 and 16, Kim et al. anticipate the limitations of claims 1 and 15.

Kim et al. also anticipate the arranging, taking, configuring, performing, and adjusting occur on a periodic basis (paragraph 0043).

Regarding claims 3 and 17, Kim et al. anticipate the limitations of claims 1 and 15.

Kim et al. also anticipate the radio frequency communication system communicates digital information (paragraph 0027).

Regarding claims 4 and 18, Kim et al. anticipate the limitations of claims 1 and 15.

Kim et al. also anticipate the receiver portion and the transmitter portion are located within the same integrated circuit (paragraph 0012).

Regarding claim 22, Kim et al. anticipate the limitation of claim 15.

Kim et al. also anticipate wherein the adjusting comprises modifying at least one threshold related to the processing of receive signal strength indicator data used in the operation of the radio frequency communication system (paragraph 0044).

Regarding claim 10, Kim et al. anticipate the limitation of claim 1.

Art Unit: 2618

Kim et al. anticipate wherein the arranging provides a relatively lower level of radio frequency signal to the receiver portion (paragraph 0034).

Regarding claim 11, Kim et al. anticipate the limitation of claim 10.

Kim et al. anticipate wherein the relatively lower level of radio frequency signal corresponds to a signal power of less than approximately -90 dBm (paragraph 0034).

Regarding claim 12, Kim et al. anticipate the method of claim 1.

Kim et al. anticipate wherein the configuring provides a relatively higher level of radio frequency signal to the receiver portion (paragraph 0034).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-7 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US2005/0095993) in view of Bednekoff et al. (US Patent#6603810).

Regarding claims 6 and 20, Kim et al. teach the limitations of claims 1 and 15.

But, Kim et al. do not expressly disclose the adjusting further comprises modifying the value of a receive signal strength indicator using an affine function.

Art Unit: 2618

Bednekoff et al. teach a receiver calibrating method that adjusts RSSI value using RSSI correction factors according a look-up table, where mathematical affine relation involved therein (column 7 lines 9-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate using adjusting RSSI value with affine function taught by Bednekoff et al., in order to provide appropriate RSSI adjustment to the receiver.

Regarding claims 7 and 21, Kim et al. and Bednekoff et al. teach the limitations of claims 6 and 20.

Kim et al. and Bednekoff et al. teach wherein the affine function is implemented using a look-up table (column 7 lines 9-60 of Bednekoff et al.).

4. Claims 5, 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US2005/0095993) in view of Johnson (US Patent#6704352).

Regarding claims 5 and 19, Kim et al. teach the limitations of claims 1 and 15.

But, Kim et al. do not expressly disclose wherein the adjusting further comprises calibrating at least one of a slope and a fixed offset of a receive signal strength indicator.

Johnson teaches a receiver calibrating method that comprises calibrating at least one of a slope and a fixed offset of a receive signal strength indicator (column 1 lines 37-62, column 3 line 23 to column 4 line 27, column 10 lines 12-41).

Art Unit: 2618

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate details of calibrating receiver gain taught by Johnson into the method and system of Kim et al., in order to provide appropriate adjustment to RSSI over time.

Regarding claim 9, Kim et al. teach the limitation of claim 1.

But, Kim et al. do not expressly disclose wherein the adjusting further comprises modifying at least one of a receive signal strength indicator slope and a receive signal strength indicator fixed offset in an analog receive signal strength indicator circuit.

However, Kim et al. disclose analog domain operation (paragraph 0028).

Johnson teaches a receiver calibrating method that comprises calibrating at least one of the slope and the fixed offset of a receive signal strength indicator (column 1 lines 37-62, column 3 line 23 to column 4 line 27, column 10 lines 12-41).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate details of calibrating receiver gain taught by Johnson into the method and system of Kim et al., in order to provide appropriate adjustment to RSSI over time.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US2005/0095993).

Regarding claim 13, Kim et al. teach the method of claim 12.

But, Kim et al. do not expressly disclose wherein the relatively higher level of radio frequency signal corresponds to a signal power of greater than approximately -30 dBm.

Art Unit: 2618

However, Kim et al. teach the relatively higher level of radio frequency signal corresponds to a signal power of greater than approximately +10 dBm (paragraph 0034) and adjustable according to an industry-accepted tolerance to its corresponding term (paragraph 0046), which would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the lower level to -30dBm to meet an industry defined tolerance range.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US2005/0095993) in view of Csapo et al. (US Patent#6801788).

Regarding claim 14, Kim et al. teach the method of claim 1.

But, Kim et al. do not expressly disclose further comprising adjusting the operation of the transmitter portion based upon the first signal power measurement and the second signal power measurement.

Csapo et al. teach adjusting the operation of the transmitter portion based upon receiver signal strength settings (column 10 lines 29-42).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate using resulted receiver signal strength settings to calibrate transmitter taught by Csapo et al. into the method of Kim et al., in order to provide available data for transmitter calibration.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zhiyu Lu whose telephone number is (571) 272-2837. The examiner can normally be reached on Weekdays: 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zhiyu Lu
June 18, 2007


NAY MAUNG
SUPERVISORY PATENT EXAMINER